CLAIMS

We claim:

1.   A method for dynamically estimating background noise comprising:

generating a periodicity indicator and a current comfort noise level for an incoming voice frame;

comparing the periodicity indicator with a predetermined threshold if the current comfort noise level is equal to a previous comfort noise level;

maintaining a background noise estimate if the periodicity indicator exceeds the predetermined threshold and revising the background noise estimate if the periodicity indicator does not exceed the predetermined threshold.

2.   The method of claim 1, further comprising:

setting the background noise estimate and an average periodicity estimate if the current comfort noise level is not equal to the previous comfort noise level.

3.   The method of claim 1, further comprising calculating a smoothed version of the periodicity indicator prior to comparing the periodicity indicator with the predetermined threshold.

4.   The method of claim 1, further comprising keeping an outbound channel open if the periodicity indicator does not exceed the predetermined threshold.

5.   A method for detecting an increase in noise level in a half-duplex speakerphone environment so as to avoid blocking outgoing speech, the method comprising:

determining a current comfort noise level;

comparing the current comfort noise level to a previous comfort noise level;

determining if a current periodicity indicator is greater than a predetermined threshold if the current comfort noise level equals the previous comfort noise level; and

maintaining a background noise estimate if the periodicity indicator exceeds the predetermined threshold and revising the background noise estimate and keeping an outbound channel open if the current periodicity indicator does not exceed the predetermined threshold.

6.   The method of claim 5, further comprising:

setting the background noise estimate and an average periodicity estimate if the current comfort noise level is not equal to the previous comfort noise level.

7.   The method of claim 5, further comprising calculating a smoothed version of the periodicity indicator prior to comparing the periodicity indicator with the predetermined threshold.

8.   The method of claim 5, further comprising updating the background noise estimate if the periodicity indicator does not exceed the predetermined threshold.

9.   A system for dynamically estimating background noise, the system comprising:

a portable communication device for receiving incoming information;

a vocoder for determining parameters related to the incoming information, the parameters including a voicing mode that indicates periodicity of the incoming information;

a voice activated detector for processing the parameters for determining a background noise estimate, the voice activated detector comprising a mechanism for comparing the current voicing mode to a predetermined threshold, wherein an outbound channel remains open unless the voicing mode exceeds the predetermined threshold.

10.   The system of claim 9, further comprising:

setting the background noise estimate and an average periodicity estimate if the current comfort noise level is not equal to the previous comfort noise level.

11.   The system of claim 9, further comprising calculating a smoothed version of the periodicity indicator prior to comparing the periodicity indicator with the predetermined threshold.

12.   The system of claim 9, further comprising updating the background noise estimate if the periodicity indicator does not exceed the predetermined threshold.